

STATE OF NEW HAMPSHIRE

**ADULT DAY CARE, SUPPORTED RESIDENTIAL CARE, AND
ASSISTED LIVING HEALTHCARE PERSONNEL INFLUENZA
VACCINATION COVERAGE REPORT
2018-19 INFLUENZA SEASON**

*New Hampshire Department of Health and Human Services
Division of Public Health Services*

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ABBREVIATIONS USED IN THIS DOCUMENT

ALF	Adult day care, supported residential care, and assisted living facilities
CDC	U.S. Centers for Disease Control and Prevention
CMS	Centers for Medicare and Medicaid Services
CSTE	Council of State and Territorial Epidemiologists
DHHS	New Hampshire Department of Health and Human Services
DH	Dartmouth Hitchcock
HAI	Healthcare-associated infection
HCP	Healthcare personnel
HICPAC	Healthcare Infection Control Practices Advisory Committee
HHS	U.S. Department of Health and Human Services
LTCF	Long-term care facilities
NH	New Hampshire
NHIP	New Hampshire Immunization Program
TAW	Healthcare-Associated Infections Technical Advisory Workgroup

Note: In order to increase readability of tables and figures, adult day care, supported residential care, and assisted living facility names have been provided in an abbreviated format.

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The HAI Program would also like to thank the Infection Prevention, Quality, and Information Technology, and Occupational Health staff at New Hampshire healthcare facilities for collaborating to provide the data presented in this report. Finally, the HAI Program acknowledges the review, comments, input, and other program contributions provided by the members of the HAI Technical Advisory Workgroup as listed on page 9.

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EXECUTIVE SUMMARY

Influenza and pneumonia combined are a leading cause of death in the United States and serious illness and deaths occur most frequently among those 65 years or older, two years or younger, and those with medical conditions that increase complications. Healthcare personnel (HCP) can become infected with the influenza virus through contact with infected patients and can transmit influenza to patients and other HCP. Because HCP provide care to patients at high risk for complications of influenza, they should be offered influenza vaccine each year. Vaccination coverage among hospital and ambulatory surgery center HCP has been monitored in New Hampshire for several years and the pooled State percentages for coverage among HCP at these facility types exceeds or approaches 90%. In accordance with RSA 151: 9-b, HCP vaccination is also monitored in adult day care, supported residential care, and assisted living facilities (ALF) since 2006. Compared with acute care facilities, these types of facilities have the lowest vaccination percentage (68% or below) for the previous ten influenza seasons from 2008-09 to 2018-19. Likewise, nursing homes and assisted living facilities typically report more influenza-related clusters and outbreaks than other healthcare settings. This report represents the fifth summary of HCP influenza vaccination coverage data in New Hampshire's ALF presented by individual facility.

Influenza Vaccination Percentages in ALF Healthcare Personnel

One hundred sixty-nine ALF licensed during the 2018-19 influenza season. One hundred thirty-one facilities reported HCP influenza vaccination data. These ALF reported vaccination percentages ranging from 0% to 100%, with a State mean 60.7%. Fifty-seven ALF had vaccination percentages similar to the overall State ALF vaccination percentage, thirty-five ALF reported vaccination percentages that were significantly higher than the overall State ALF vaccination percentage, and thirty-nine ALF reported vaccination percentages that were significantly lower than the overall State ALF vaccination percentage. Overall, ALF with vaccination policies had significantly higher percentages of influenza vaccination as a whole (85.2%) than ALF without policies (49.5%).

This fifth report of NH ALF HAI data is an important part of continuing progress toward the goal of eliminating HAI, including healthcare-acquired influenza, in New Hampshire. This report provides influenza vaccination coverage data, which can be used by ALF in the State to identify areas for improvement as well as healthcare consumers to make informed healthcare decisions.

I. INTRODUCTION

A. Purpose

This report represents the fifth summary of healthcare personnel (HCP) influenza vaccination coverage data reported by adult day care, supported residential care, and assisted living facilities (abbreviated as ALF) in New Hampshire during the 2018-19 influenza season (October 1, 2018 through March 31, 2019). This report can be used by NH ALF is to identify areas for improvement as well as by healthcare consumers to make informed healthcare decisions.

B. Audience

The intended audience may include, but is not limited to: HCP, infection control and prevention staff, occupational health, facility leadership and management, clinicians, and healthcare consumers.

C. How to use this document

This document includes aggregate data reported by all licensed ALF in NH. The document consists of five sections:

- I) Introduction
- II) Surveillance methods
- III) Statewide and individual ALF influenza vaccination coverage of HCP
- IV) Conclusions
- V) Appendices
 - a. Technical notes
 - b. Influenza vaccination survey questions
 - c. Preventing HAI
 - d. Map of NH ALF
 - e. References

Please contact the NH Department of Health and Human Services (DHHS) Healthcare-Associated Infections (HAI) Program (603-271-4496) with any questions about the content or how to use this document.

D. Background on Healthcare-Associated Influenza

Healthcare personnel (HCP) can become infected with the influenza virus through community contact or through contact with infected patients and then can transmit influenza to patients and other HCP. Despite documented benefits of HCP influenza vaccination on patient outcomes and HCP absenteeism nationally, vaccination coverage among HCP remains low. In a CDC survey, influenza vaccination coverage in HCP nationally was 88.7% during the 2017-18 influenza season; below the HHS Healthy People 2020 goal of 90%.ⁱ Because HCP provide care to patients at high

risk for complications of influenza, they should be offered influenza vaccine each year. Currently there are no regulations requiring influenza vaccination among HCP in New Hampshire, and HCP are free to decline vaccination for any reason. However, some healthcare facilities have policies requiring mandatory HCP vaccination. Vaccination percentages in hospital and ambulatory surgery center (ASC) HCP have been monitored in New Hampshire for several years. HCP vaccination percentages in ALF have been monitored since 2006, although these data have been collected more completely since the 2013-14 influenza season.

E. Healthcare-Associated Infections and Influenza in Assisted Living, Adult Day Care, and Supported Residential Care Facilities

ALF fall under a category of long-term care facilities (LTCF) and are a growing and important healthcare setting. In recent decades, healthcare delivery has shifted from acute care hospitals to a variety of assisted, skilled nursing, and outpatient or ambulatory settings. With ALF playing such an important role in the current healthcare delivery system, it is critical that they follow guidelines and take measures to minimize the risk of HAI. The CDC, the Advisory Committee on Immunization Practices (ACIP) and the Healthcare Infection Control Practices Advisory Committee (HICPAC) all recommend that all U.S. HCP are vaccinated annually against influenza to protect patients and other HCP from healthcare- or occupationally-acquired influenza. Guidelines were developed by CDC and HICPAC following increased demand for recommendations on preventing and controlling pneumonia and other lower respiratory tract infections in healthcare settings, other than acute-care hospitals, following a shift of healthcare delivery to outpatient or long-term care.ⁱⁱ

In fall 2018, the HAI Program published an HCP influenza vaccination brief highlighting aggregate data from hospitals, ambulatory surgery centers (ASC), and ALF. Hospitals consistently had the highest HCP influenza vaccination percentage (with the exception of the 2010-11 season, when the ASC pooled percentage exceeded that of hospitals). ASC followed closely with vaccination coverage percentages ranging between 80-89%. ALF continuously had the lowest vaccination percentages (below 60%) for the previous eight influenza seasons.ⁱⁱⁱ Likewise, nursing homes and ALF in NH typically report more influenza-related clusters and outbreaks than other healthcare settings, and experience with these clusters and outbreaks have depicted poor HCP influenza vaccination coverage.

Influenza outbreaks commonly occur in LTCF, yet vaccination rates among these HCP remain low. During each influenza season, approximately 20-40% of elderly patients contract the influenza virus while in LTCF worldwide. Complications in elderly or immunocompromised patients result in approximately 10% being hospitalized, and up to 55% of these hospitalizations will lead to death.^{vi} Patients in these facilities are at increased risk for infection due to rapid spread of virus in congregate settings as well as lower immune responses.^{iv} In three separate studies of LTCF, researchers found that increased influenza vaccination coverage among HCP resulted in lower infection rates amongst patients. Rates of morbidity and mortality among facility residents were also reduced when HCP influenza vaccination coverage increased. One effective way of

protecting this vulnerable patient population is the promotion of and education about influenza vaccination among HCP in these settings.^v

F. New Hampshire Healthcare-Associated Infections Program and Influenza Vaccination Reporting

In 2005, RSA 151: 9-b was passed to require all licensed hospitals, adult day care, supported residential care, and assisted living facilities (ALF) to report patient and HCP influenza vaccination percentages. These data were originally reported to the NH Immunization Program (NHIP) starting in October 2006 for the 2006-07 influenza season.

During the 2006 legislative season, the New Hampshire Legislature passed a bill creating NH RSA 151:32-35, to require hospitals to identify, track, and report HAI and specific process measures, such as HCP vaccination, to DHHS. The passage of the 2006 bill did not include funding to carry out these activities, and therefore, mandatory reporting was not fully implemented until January 2009. The intent of the law is to provide data in a publicly accessible forum for facility comparison.

During the 2010 legislative season, the New Hampshire Legislature passed HB 1548 amending RSA 151:32-35 to require all licensed ambulatory surgical centers (ASC) to report HAI and process measures to DHHS. During the 2019 legislative season, the New Hampshire Legislature passed He-P 301 amending RSA 151: 32-35 to include all licenced long term care facilities (LTC) to report HCP influenza vaccination data.

To align and coordinate reporting under RSA 151:9-b and RSA 151:32-35, the responsibility to collect hospital, ASC, and ALF HCP influenza vaccination data was transitioned to the HAI Program beginning with the 2013-14 influenza season. DHHS notified the 169 ALF in NH that they would be required to report the mandated HCP influenza vaccination data to the HAI Program.

G. Overview of Healthcare-Associated Infections Prevention Efforts

Currently there are no specific prevention activities being coordinated directly by DHHS; however, DHHS remains active in various projects coordinated by the NH Health Care Quality Assurance Commission (NHHCQAC) and the Medicare Quality Innovation Network-Quality Improvement Organization (QIN-QIO). Major statewide initiatives through these organizations have included hand hygiene campaigns, patient safety checklists, and programs to prevent bloodstream infections, antimicrobial resistance, and *Clostridium difficile* infections. For additional information on these various efforts, the following websites may be helpful:

New Hampshire Health Care Quality Assurance Commission
<http://www.healthynh.com/fhc-initiatives/nh-health-care-quality-assurance-commission.html>

Foundation for Healthy Communities Partnership for Patients
<http://www.healthynh.com/partnership-for-patients.html>

Medicare Quality Innovation Network-Quality Improvement Organization (QIN-QIO) for Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
<https://healthcentricadvisors.org/>

In addition to supporting and engaging in prevention activities with patient safety groups, the HAI Program provides educational opportunities to healthcare facilities across the state in order to share best practices for infection prevention and ultimately reduce HAI. The program also routinely presents data, including HCP influenza vaccination coverage, to the New Hampshire Infection Control and Epidemiology Professionals (NHICEP) organization. There is ample opportunity for infection control and prevention professionals from different healthcare settings to share their experience and learn from each other on how to improve HCP influenza vaccination coverage across the continuum of care.

H. Healthcare-Associated Infections Technical Advisory Workgroup

In the spring of 2009, DHHS formed an HAI Technical Advisory Workgroup (TAW). The purpose of the TAW is to provide scientific and infection prevention expertise to the DHHS HAI Program. The TAW meets quarterly, and is not an oversight group, but instead a forum for stakeholder participation in decision-making around the HAI Program. The TAW is currently a multi-disciplinary group that includes representation from stakeholders across NH and includes representatives from various sizes and types of hospitals and ASC, infection control associations, a consumer advocate, the New Hampshire Hospital Association, the New Hampshire Healthcare Quality Assurance Commission, the New Hampshire Ambulatory Surgery Association, and the Northeast Health Care Quality Foundation (see page 9 for a list of TAW members during the 2018 reporting year). HAI reporting continuously evolves based on current recommendations and national trends, therefore the HAI TAW may expand to include representation from long-term care and/or ALF to account for this important healthcare setting.

Healthcare-Associated Infections Technical Advisory Workgroup

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DHHS: New Hampshire Department of Health and Human Services

II. SURVEILLANCE METHODS

A. Healthcare-Associated Infections Reporting Requirements for NH Adult Day Care, Supported Residential Care, and Assisted Living Facilities

Reporting requirements are governed by RSA 151:9-b with authority given to DHHS to develop administrative rules to provide specific reporting instructions and methodology. In 2018, ALF were required to report aggregate vaccination data for patients and HCP to DHHS.

B. Selection of Reporting Requirements

RSA 151:9-b broadly requires reporting of HCP and patient immunization data, including influenza vaccination coverage. In order to generate influenza vaccination coverage percentages for ALF, reporting measures were selected in accordance with national recommendations for HAI surveillance in the context of public reporting.

In 2005, the CDC released a report titled “Guidance on Public Reporting of Healthcare-Associated Infections: Recommendations of the Healthcare Infection Control Practices Advisory Committee” (HICPAC).^{vi} The group recommended selecting outcome measures for reporting based on the frequency, severity, and preventability of the outcomes and the likelihood that they can be detected and reported accurately. Applicable to ALF, the group recommended monitoring influenza vaccination of HCP.

In 2008, the Healthcare-Associated Infection Working Group of the Joint Public Policy Committee released “Essentials of Public Reporting of Healthcare-Associated Infections: A Tool Kit.”^{vii} The Healthcare-Associated Infection Working Group of the Joint Public Policy Committee is a multi-organizational group represented by the Association for Professionals in Infection Control and Epidemiology, CDC, Council of State and Territorial Epidemiologists, and Society for Healthcare Epidemiology of America. The toolkit also recommends monitoring HCP influenza vaccination percentages.

Within the context of RSA 151:9-b, NH DHHS started collecting HCP influenza vaccination data in 2006. The methods for collecting these data changed as reporting was placed under HAI Program jurisdiction (see methods section on collecting these data). Also, reporting requirements may change for ALF in the future as we learn from public reporting, as HAI epidemiology changes, and as new surveillance methods and reporting technologies become available.

C. Accuracy of Reported Healthcare Personnel Influenza Surveillance Data

There are several limitations to the reporting methods that may limit comparison of data across ALF and between years. The vaccination coverage data reported for the 2018-19 influenza season were not validated. However there are several processes used to ensure that these data are as accurate as possible. First, DHHS analyzed and reviewed all data reported by each ALF. This review identified obvious reporting errors or internal inconsistencies that suggested errors.

Second, DHHS provided preliminary reports to each ALF with the request to confirm accuracy and make corrections. An additional limitation to comparisons is that interpretation of the standardized CDC National Healthcare Network Safety (NHSN) HCP definitions may vary, particularly by ALF that have little to no exposure applying these definitions. For example, ALF may have several types of HCP (employees [paid], licensed independent practitioners [affiliated but not directly employed], students or trainees, other contract personnel) and these HCP may work off hours or on per diem basis, making it difficult to collect these data systematically. See Appendix 1 “Technical Notes” for more details.

D. Influenza Vaccination Monitoring

All ALF are required to report HCP vaccination data directly to DHHS via an online survey that is provided to facilities prior to the influenza season. All ALF received emails and phone calls to ensure those personnel completing the survey understood the reporting requirements and the HAI Program’s plan to publicly report the 2018-19 HCP influenza vaccination data by facility name.

Data were reported by 129 ALF on or before the deadline of April 30, 2018; the remaining 38 (22.5%) ALF were contacted to encourage reporting and reported at a later date. Submission of these data meets the requirement of the healthcare immunization law (RSA 151:9-b). See Appendix 2 to see a list of the 2018-19 questions regarding influenza vaccination.

ALF calculated HCP influenza vaccination percentages by dividing the total number of those HCP immunized against influenza for the 2018-19 influenza season by the total number of HCP that worked or volunteered in each facility for at least one working day between October 1, 2018 and March 31, 2019.

Limitations for influenza vaccination monitoring:

- The survey asks for the total number of HCP vaccinated. This may not reflect the number of HCP to whom the vaccine was offered. ALF may vary in the refusal rate for vaccination among HCP and the reasons for such refusal. Additionally, some HCP may not be eligible to receive the vaccine. The survey attempted to assess why unvaccinated HCP did not receive the vaccine, however, not all ALF were able to report this information.
- Because the survey did not include options for facilities to report unknown vaccination status, patients and HCP with unknown vaccination status were analyzed as though they were not vaccinated; resulting in a conservative estimate of vaccination status (e.g., lower than in reality).
- Vaccination status is not available by location where the vaccination was received (e.g., at the reporting facility or elsewhere).
- Data collection techniques at ALF may vary from year to year, potentially affecting comparison of data year to year. DHHS continues to work towards improving the validity and utility of this measure in order to eliminate issues that pose problems for such comparison.

- Some ALF have very few HCP and may never be able to achieve a vaccination percentage significantly higher than the State pooled mean due to sparse data.
- This report combines data from three facility types organized as ALF, including adult day care, supported residential care, and assisted living facilities. Each facility type has unique factors that may impact reporting, and subsequently, influenza vaccination coverage percentages. In future years, these data may be compared to State percentages based on specific facility type.
- Annual influenza vaccination education for HCP, consistent surveillance, and reporting according to surveillance protocols is imperative to maintain high quality data. High turnover in this setting may diminish ability to perform these tasks and influence comparability of vaccination percentages.
- With a continued approach of active surveillance, future seasons of data will allow for more accurate comparison and response rates and timeliness should increase.
- This is the fifth year individual ALF data was published in comparison to the State percentage. As ALF become more familiar with reporting methods and work to increase vaccine uptake, HCP vaccination data accuracy will improve and percentages will likely increase.

III. STATEWIDE DATA

HAI data are presented throughout this report as HCP vaccination percentages. A confidence interval is calculated to determine whether the difference between individual facility and State percentages are statistically significant. If the difference is not statistically significant, the percentages are considered similar. See Technical Notes for additional information on percentages and confidence intervals.

This report provides comparisons with State data where appropriate. Comparisons are color coded consistently throughout. Yellow represents percentages that are similar to the State percentage, red represents percentages that are significantly lower than the State percentage, and green represents percentages that are significantly higher than the State percentage.

 higher than state  similar to state  lower than state

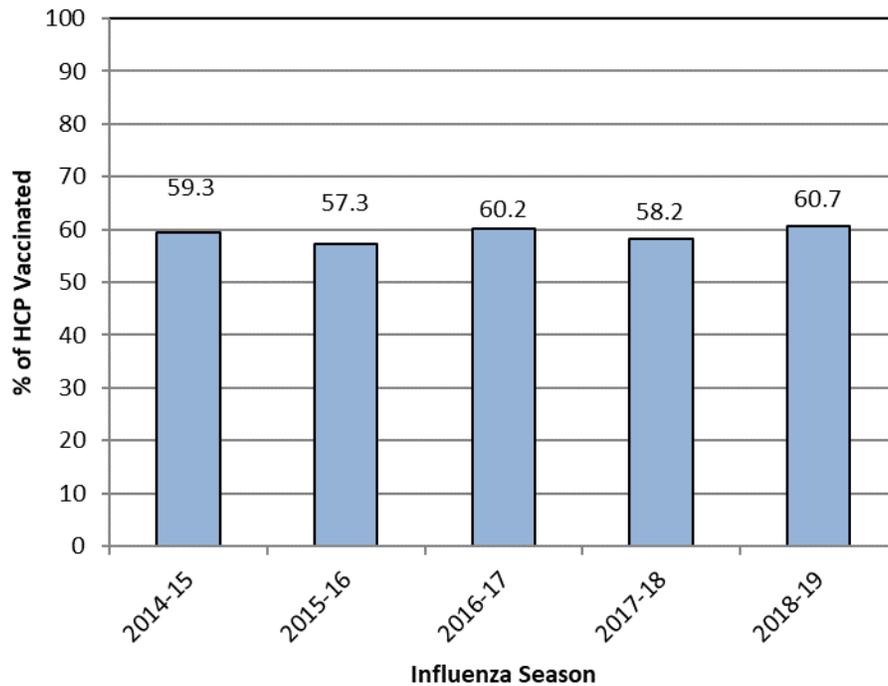
Statistical significance is affected by sample size. If a value is almost or barely significant, just a few additional observations can push significance one way or the other (i.e., not significant or significant).

Influenza Vaccination Percentages

Figure 1 shows vaccination percentages from 2014-15 to 2018-19 and shows that the State ALF percentage ranged from 59.3% to 60.7%. Table 1 below shows the total number of HCP and the number of HCP vaccinated against seasonal influenza at each ALF during the 2018-19 influenza season. A confidence interval is provided to assess statistical significance in HCP vaccination between ALF and comparison to the statewide vaccination percentage.

The analyses presented in Table 1 and Figure 2 show that among the ALF that reported 57 (43.5%) ALF had vaccination percentages similar to the overall State vaccination percentage, 35 (26.7%) ALF reported vaccination percentages that were significantly higher than the overall State vaccination percentage, and 39 (29.8%) ALF reported vaccination percentages that were significantly lower than the overall State vaccination percentage.

Figure 1. Statewide influenza vaccination percentages for ALF HCP by influenza season



Note: Influenza season represents data for staff between October 1st and March 31st the following calendar Year.

Table 1. Influenza vaccination percentages for HCP by ALF, 2018-19 influenza season (October 1, 2018–March 31, 2019)

ALF	City	License #	Total HCP	HCP Vaccinated	% HCP Vaccinated	95% Confidence Interval	ALF % Compared to State %
Adult Day Care of Nashua	Nashua	03872	7	7	100.0	65.2 , -	Higher
Applegate Gardens, LLC	Madbury	03380	5	4	80.0	33.4 , 99.0	Similar
Arbors of Bedford, The	Swanzey	03922	72	48	66.7	55.2 , 76.8	Similar
Artiban House	Greenfield	03111	5	0	0.0	- , 45.1	Lower
Assisted Living at Sugar Hill	Durham	02519	70	62	88.6	79.5 , 94.5	Higher
Austin Home	Nashua	02923	6	1	16.7	0.8 , 59.1	Lower
Aynsley Place	Nashua	01526	77	64	83.1	73.5 , 90.3	Higher
Beaver Lake Lodge Assisted Living	Concord	04109	15	14	93.3	71.3 , 99.7	Higher
Bedford Falls Assisted Living	Bedford	03983	150	11	7.3	3.9 , 12.4	Lower
Bellamy Fields Assisted Living	Keene	03096	93	51	54.8	44.7 , 64.7	Similar
Benchmark Senior Living at Nashua Crossing	Nashua	04066	135	44	32.6	25.1 , 40.8	Lower
Benlley Commons Keene	Dover	03545	111	107	96.4	91.5 , 98.8	Higher
Bentley Commons Bedford	Bedford	03348	71	43	60.6	48.9 , 71.4	Similar
Birches At Concord, The	Derry	03698	50	20	40.0	27.2 , 54.0	Lower
Boulders at RiverWoods	Nashua	03619	78	58	74.4	63.8 , 83.1	Higher
Bridges by Epoch at Nashua	Nashua	04175	86	21	24.4	16.2 , 34.3	Lower
Brookdale Spruce Wood	Wolfeboro	03728	70	42	60.0	48.2 , 71.0	Similar
Carpenter Home, The	Bedford	00836	12	12	100.0	77.9 , -	Higher
Carriage Hill Assisted Living	Madbury	04128	42	26	61.9	46.6 , 75.6	Similar
Carriage House, The	Northfield	03969	16	15	93.8	72.8 , 99.7	Higher

Table 1. Continued, Influenza vaccination percentages for HCP by ALF, 2017-18 influenza season (October 1, 2018–March 31, 2019)

ALF	City	License #	Total HCP	HCP Vaccinated	% HCP Vaccinated	95% Confidence Interval	ALF % Compared to State %
Colonial Fox Den Assisted Living	Sandown	03996	19	9	47.4	26.1 , 69.4	Similar
Courville at Carlyle Place, The	Bedford	01548	84	80	95.2	88.9 , 98.5	Higher
Desiree's Place	Rochester	03495	8	4	50.0	18.4 , 81.6	Similar
Easterseals NH	Manchester	01779	122	13	10.7	6.1 , 17.1	Lower
Ernest P. Barka Assisted Living	Brentwood	02934	31	22	71.0	53.4 , 84.8	Similar
Evolve at Rye	Rye	04221	104	22	21.2	14.1 , 29.8	Lower
Fairview Healthcare	Hudson	03264	300	98	32.7	27.5 , 38.1	Lower
Forestview Manor Assisted Living	Meredith	03679	70	60	85.7	76.0 , 92.5	Higher
Forestview Manor Assisted Living	Meredith	03677	70	60	85.7	76.0 , 92.5	Higher
Forestview Manor Assisted Living	Meredith	03678	70	60	85.7	76.0 , 92.5	Higher
Four Winds Community - Iona House	Wilton	02838	9	4	44.4	16.0 , 76.0	Similar
Four Winds Community - St. Oran House	Temple	03147	9	4	44.4	16.0 , 76.0	Similar
Fox Meadow Retirement Home	Bristol	02801	10	0	0.0	- , 25.9	Lower
Friendship Manor Inc	New Ipswich	01337	16	13	81.2	57.0 , 95.0	Similar
Gateways Adult Day Program	Hudson	02752	11	6	54.5	25.9 , 81.0	Similar
Gerrish Manor	Boscawen	02738	10	10	100.0	74.1 , -	Higher
Golden Crest, The	Franklin	04191	102	75	73.5	64.3 , 81.4	Higher
Grace House of Windham	Windham	03498	28	13	46.4	28.8 , 64.8	Similar
Granite Ledges of Concord	Concord	02698	86	80	93.0	86.1 , 97.1	Higher
Greystone Farm	Salem	03711	90	8	8.9	4.2 , 16.2	Lower

Table 1. Continued, Influenza vaccination percentages for HCP by ALF, 2017-18 influenza season (October 1, 2018–March 31, 2019)

ALF	City	License #	Total HCP	HCP Vaccinated	% HCP Vaccinated	95% Confidence Interval	ALF % Compared to State %
Harmony Homes By the Bay	Durham	04228	63	45	71.4	59.4 , 81.5	Similar
Harmony Homes LLC at Hickory Pond	Durham	03794	21	16	76.2	54.9 , 90.7	Similar
Harvest Hill Independent and Assisted Living	Lebanon	02420	95	92	96.8	91.6 , 99.2	Higher
Havenwood Heritage Heights Rainie Unit	Concord	03904	71	48	67.6	56.1 , 77.7	Similar
Havenwood Heritage Heights LAL	Concord	02431	10	9	90.0	59.7 , 99.5	Similar
Horseshoe Pines	Goshen	01827	7	3	42.9	12.3 , 78.4	Similar
Huggins Hospital Adult Day Program	Wolfeboro	01990	9	8	88.9	56.1 , 99.4	Similar
Hunt Community Nursing/ALU	Nashua	03919	74	37	50.0	38.7 , 61.3	Similar
Huntington at Nashua, The	Nashua	03905	70	57	81.4	71.0 , 89.3	Higher
Inn at Deerfield, The	Deerfield	02784	41	18	43.9	29.4 , 59.3	Lower
Inn at Edgewood, The	Portsmouth	04130	24	20	83.3	64.5 , 94.5	Higher
Inn at Fairview, The	Hudson	04015	61	17	27.9	17.7 , 40.1	Lower
Inn at Golden View, The	Meredith	02734	97	94	96.9	91.8 , 99.2	Higher
Inn at Parker Station	Goffstown	02612	9	5	55.6	24.0 , 84.0	Similar
Jovis House	Greenfield	03601	6	0	0.0	- , 39.3	Lower
Kendal at Hanover	Hanover	01954	306	296	96.7	94.3 , 98.3	Higher
Kirkwood Corners	Lee	04014	39	20	51.3	35.8 , 66.6	Similar
Langdon Place of Exeter	Exeter	02694	76	72	94.7	87.8 , 98.3	Higher
Langdon Place of Keene	Keene	03921	82	82	100.0	96.4 , -	Higher
Langon Place of Nashua	Nashua	02692	82	70	85.4	76.4 , 91.8	Higher

Table 1. Continued, Influenza vaccination percentages for HCP by ALF, 2017-18 influenza season (October 1, 2018–March 31, 2019)

ALF	City	License #	Total HCP	HCP Vaccinated	% HCP Vaccinated	95% Confidence Interval	ALF % Compared to State %
Lilac View	Rochester	03871	18	1	5.6	0.3 , 24.5	Lower
Lincoln Terrace Home ALF	Rochester	04243	10	10	100.0	74.1 , -	Higher
Lukas - Crossroads Farm	Temple	00857	23	1	4.3	0.2 , 19.6	Lower
Lukas - Echo Farm	Temple	02422	23	1	4.3	0.2 , 19.6	Lower
Lukas - Ledgewood House	Temple	03061	23	1	4.3	0.2 , 19.6	Lower
Lukas - Birch House	Temple	03118	23	0	0.0	0.0 , 12.2	Lower
Maintaining Independence	Hooksett	04279	19	14	73.7	50.9 , 89.7	Similar
Maplewood Assisted Living	Westmoreland	02670	14	9	64.3	37.6 , 85.6	Similar
Meadow View Manor	Rochester	01450	2	0	0.0	0.0 , 77.6	Similar
Meredith Bay Colony Club	Meredith	03544	58	27	46.6	34.0 , 59.4	Lower
Merry Meadow Farm Hanover	Hanover	02088	17	5	29.4	11.7 , 53.7	Lower
Mineral Springs	North Conway	03908	107	102	95.3	89.9 , 98.3	Higher
Monadnock Adult Care Center	Jaffrey	03299	13	8	61.5	34.1 , 84.3	Similar
Neurorestorative Hemlock Hill	Loudon	04002	8	6	75.0	38.8 , 95.6	Similar
NeuroRestorative Wentworth	Wentworth	04063	18	11	61.1	37.7 , 81.1	Similar
NeuroRestorative Freedom	Freedom	04060	18	7	38.9	18.9 , 62.3	Similar
Neurorestorative Nottingham	Deerfield	04039	15	11	73.3	47.5 , 90.9	Similar
NeuroRestorative Chichester	Chichester	03573	18	4	22.2	7.5 , 45.3	Lower
NeuroRestorative Thompson	Freedom	04060	7	2	28.6	5.1 , 67.0	Similar

Table 1. Continued, Influenza vaccination percentages for HCP by ALF, 2017-18 influenza season (October 1, 2018–March 31, 2019)

ALF	City	License #	Total HCP	HCP Vaccinated	% HCP Vaccinated	95% Confidence Interval	ALF % Compared to State %
New Hampshire Masonicare DBA Evergreen	Manchester	03170	46	29	63.0	48.5 , 76.0	Similar
Peabody Home	Franklin	02460	48	16	33.3	21.1 , 47.5	Lower
Peaceful Harvest Homes, LLC	Charlestown	02624	10	9	90.0	59.7 , 99.5	Similar
Pine Hill Assisted Living	Windham	04109	11	11	100.0	76.2 , -	Higher
Pine Rock Manor	Warner	04013	57	18	31.6	20.5 , 44.4	Lower
Pine View Haven	Andover	02330	1	1	100.0	5.0 , -	Similar
Pines of Newmarket, The	Newmarket	04012	54	6	11.1	4.6 , 21.7	Lower
Pond View Acres Assisted Living	Barrington	02822	9	0	0.0	- , 28.3	Lower
Poplin Way Assisted Living	Fremont	02883	16	16	100.0	82.9 , -	Higher
Presidential Oaks	Concord	03522	25	20	80.0	61.1 , 92.3	Similar
Presidential Oaks	Concord	01717	25	20	80.0	61.1 , 92.3	Similar
Prospect Woodward Home	Keene	04163	30	19	63.3	45.2 , 79.0	Similar
Red Farm House	Greenfield	03071	4	0	0.0	- , 52.7	Lower
Residence at Salem Woods, The	Salem	04148	93	9	9.7	4.8 , 17.0	Lower
Ridge at RiverWoods	Exeter	03909	91	61	67.0	56.9 , 76.1	Similar
Riverglen House	Littleton	04272	36	30	83.3	68.5 , 93.0	Higher
RiverMead	Peterborough	03910	285	170	59.6	53.9 , 65.2	Similar
RiverWoods	Exeter	03920	99	61	61.6	51.8 , 70.8	Similar
Rose Haven Assisted Living	Merrimack	01844	25	14	56.0	36.4 , 74.3	Similar
Rose Meadow Acres	New Boston	04107	43	28	65.1	50.1 , 78.2	Similar

Table 1. Continued, Influenza vaccination percentages for HCP by ALF, 2017-18 influenza season (October 1, 2018–March 31, 2019)

ALF	License #	City	Total HCP	HCP Vaccinated	% HCP Vaccinated	95% Confidence Interval	ALF % Compared to State %
Rose Meadow Garden	New Boston	03289	44	27	61.4	46.5 , 74.8	Similar
Rose Meadw Farm	New Boston	02182	26	18	69.2	49.8 , 84.6	Similar
Rosewood Manor ALF	Gonic	04244	11	11	100.0	76.2 , -	Higher
Sartwell Place Assisted Living	Whitefield	01995	31	28	90.3	75.9 , 97.5	Higher
Scott-Farrar	Peterborough	04178	71	38	53.5	41.9 , 64.9	Similar
Seaside Elderly Day Out Center	Hampton	02740	5	2	40.0	7.3 , 81.8	Similar
Seasons at Summercrest, The	Newport	03377	21	9	42.9	23.3 , 64.3	Similar
Senior Class Corp.	Hampstead	03209	24	17	70.8	50.6 , 86.3	Similar
Silver Maples Residential Care	Claremont	04236	6	6	100.0	60.7 , -	Similar
Studley Home	Rochester	03787	18	6	33.3	14.8 , 56.9	Lower
Studley Home	Rochester	02652	18	6	33.3	14.8 , 56.9	Lower
Summercrest Assisted Living	Newport	03874	33	16	48.5	31.9 , 65.3	Similar
Summerhill Assisted Living	Peterborough	03199	82	76	92.7	85.4 , 97.0	Higher
Summit by Morrison	Whitefield	04274	29	28	96.6	84.1 , 99.8	Higher
Tamworth Community Living	Tamworth	04165	8	1	12.5	0.6 , 48.0	Lower
Taylor Home	Laconia	00062	171	149	87.1	81.5 , 91.5	Higher
Tobias Community, Inc.	Temple	03998	16	3	18.8	5.0 , 43.0	Lower
Villa Crest Nursing and Retirement Center	Manchester	03966	200	174	87.0	81.8 , 91.1	Higher

Table 1. Continued, Influenza vaccination percentages for HCP by ALF, 2017-18 influenza season (October 1, 2018–March 31, 2019)

ALF	License #	City	Total HCP	HCP Vaccinated	% HCP Vaccinated	95% Confidence Interval	ALF % Compared to State %
Vintage Hill, LLC	Pittsfield	03084	11	2	18.2	3.2 , 48.3	Lower
Wadleigh House	Dover	03613	5	1	20.0	1.0 , 66.6	Similar
Warde Health Center SRC	Windham	04087	80	55	68.8	58.0 , 78.2	Similar
Watson Fields Assisted Living	Dover	03528	118	75	63.6	54.6 , 71.9	Similar
Webster at Rye Assisted Living/Memory Care	Rye	03817	92	41	44.6	34.7 , 54.8	Lower
Wellstone House	Raymond	04283	9	2	22.2	3.9 , 56.2	Lower
Wentworth Home for the Aged	Dover	01532	32	11	34.4	19.6 , 51.9	Lower
Wentworth Senior Living	Portsmouth	00147	106	38	35.8	27.2 , 45.3	Lower
Westboro House Assisted Living	West Lebanon	04046	6	3	50.0	14.7 , 85.3	Similar
Wheelock Terrace	Hanover	02767	70	36	51.4	39.8 , 63.0	Similar
Windham Terrace Assisted Living	Windham	02783	79	23	29.1	19.9 , 39.8	Lower
Woodcrest Village	New London	02614	80	50	62.5	51.5 , 72.6	Similar
State Total			6,607	4,010	60.7	59.5 , 61.9	

Figure 2. Influenza vaccination percentages for ALF HCP by ALF, 2018-19 influenza season (October 1, 2018—March 31, 2019)

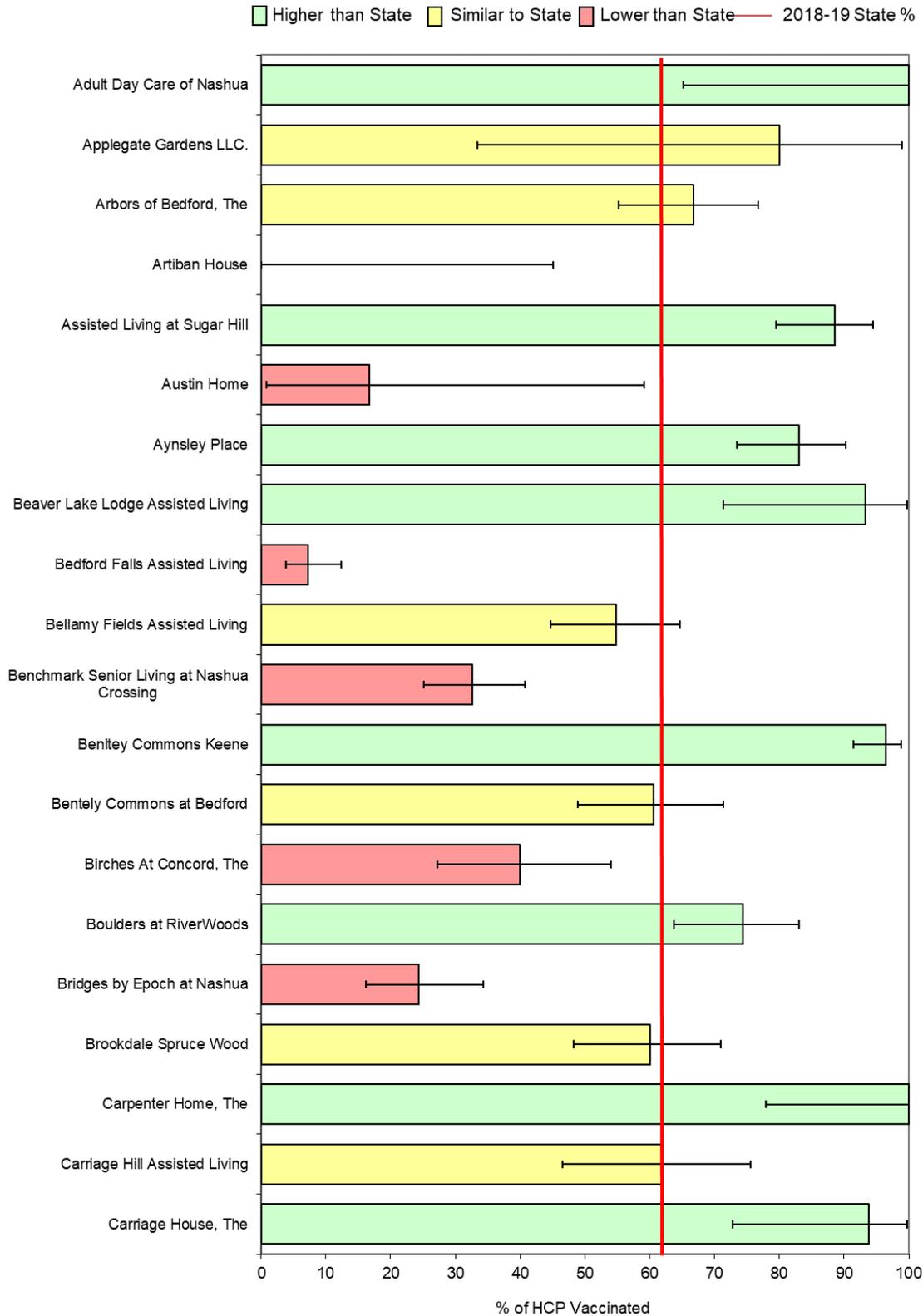


Figure 2. Continued, Influenza vaccination percentages for ALF HCP by ALF, 2018-19 influenza season (October 1, 2018—March 31, 2019)

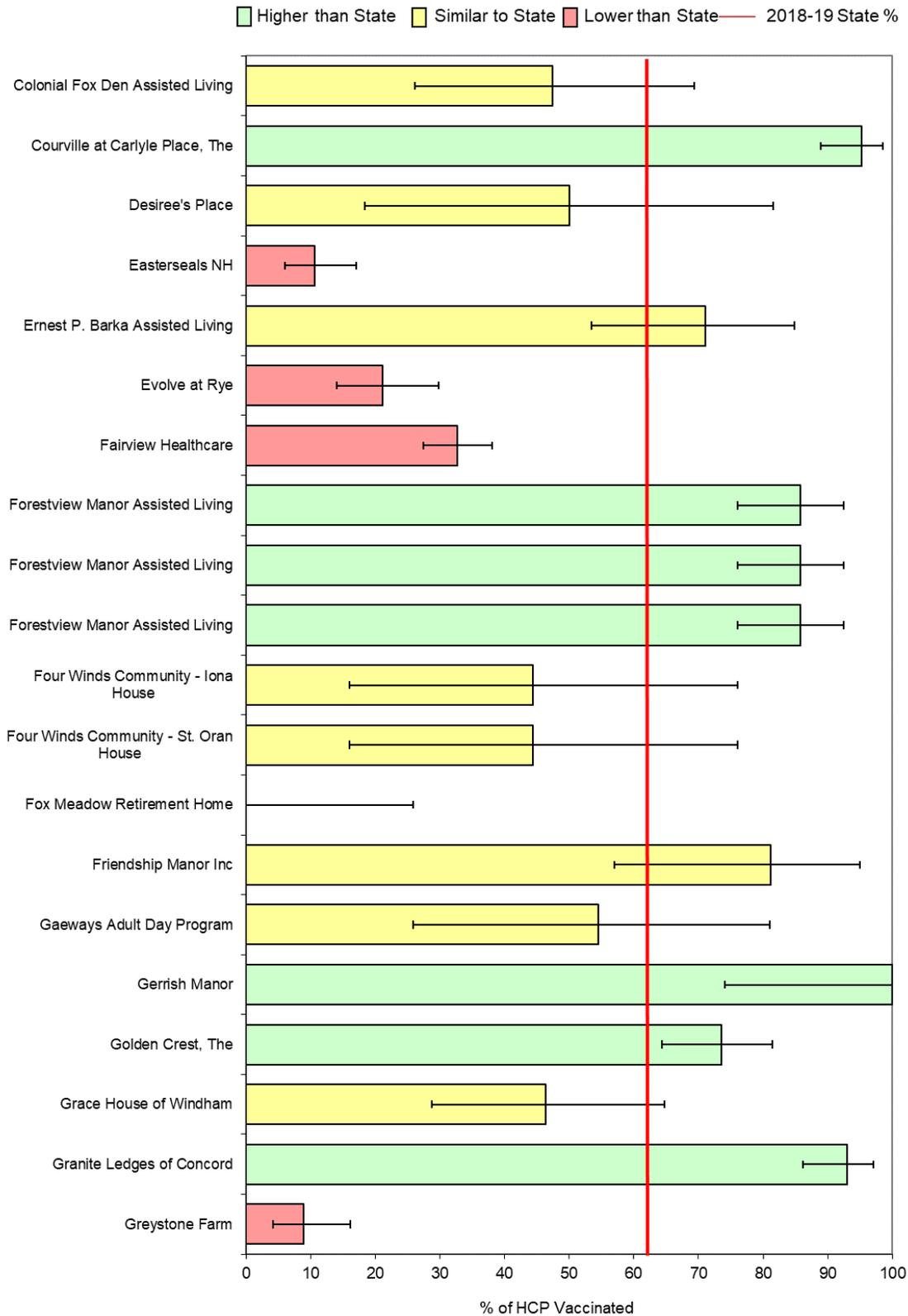


Figure 2. Continued, Influenza vaccination percentages for ALF HCP by ALF, 2018-19 influenza season (October 1, 2018—March 31, 2019)

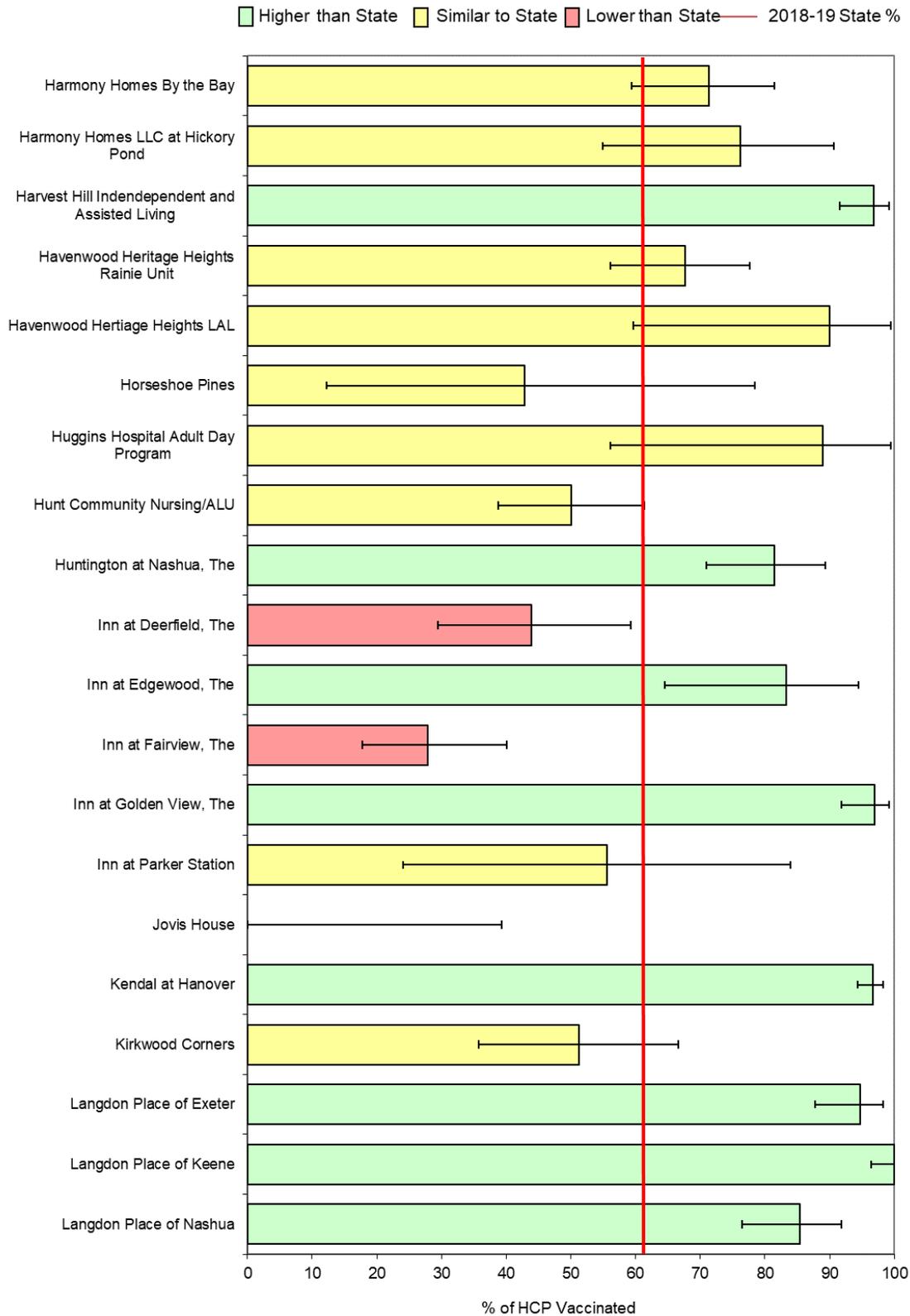


Figure 2. Continued, Influenza vaccination percentages for ALF HCP by ALF, 2018-19 influenza season (October 1, 2018—March 31, 2019)

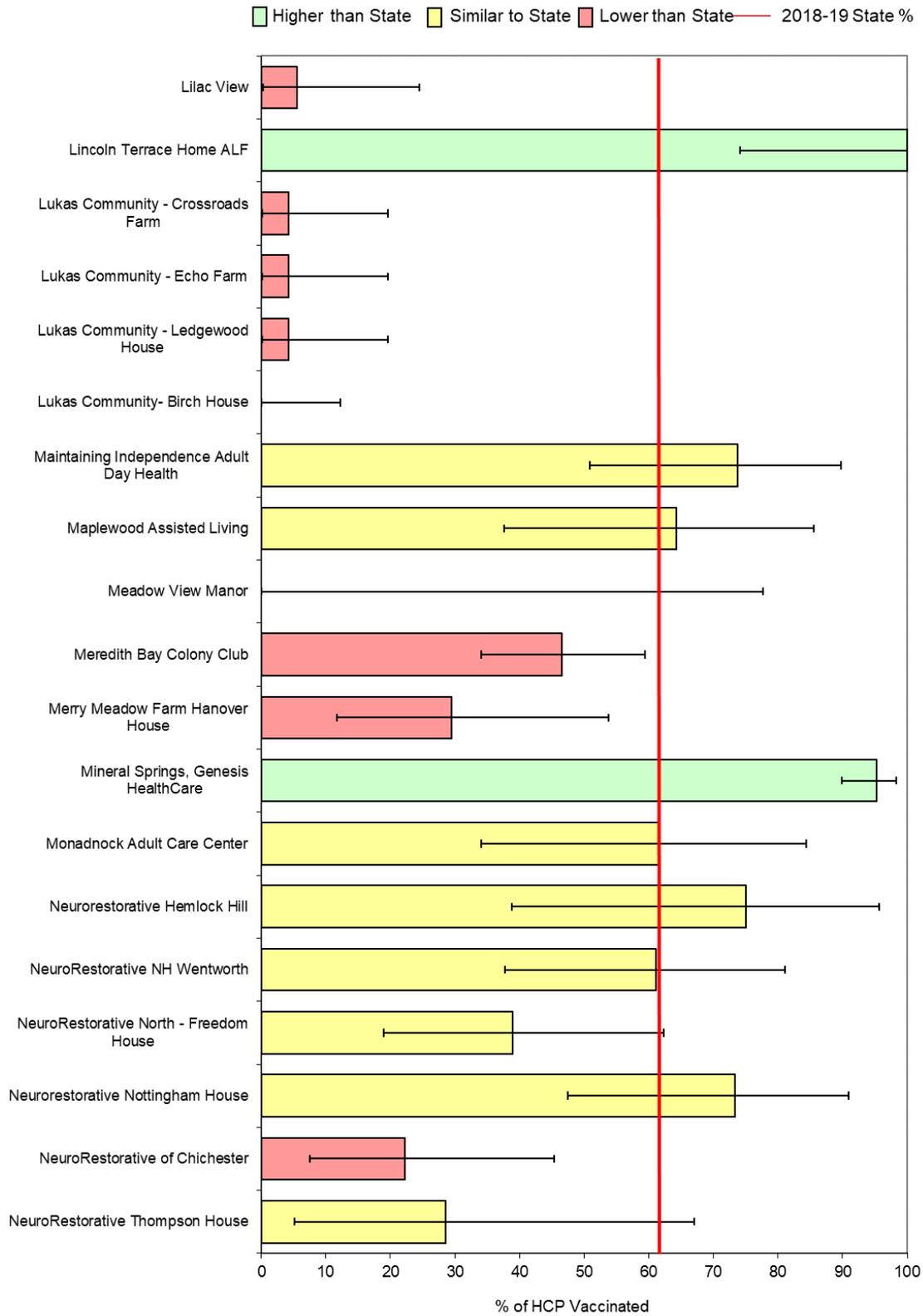


Figure 2. Continued, Influenza vaccination percentages for ALF HCP by ALF, 2018-19 influenza season (October 1, 2018—March 31, 2019)

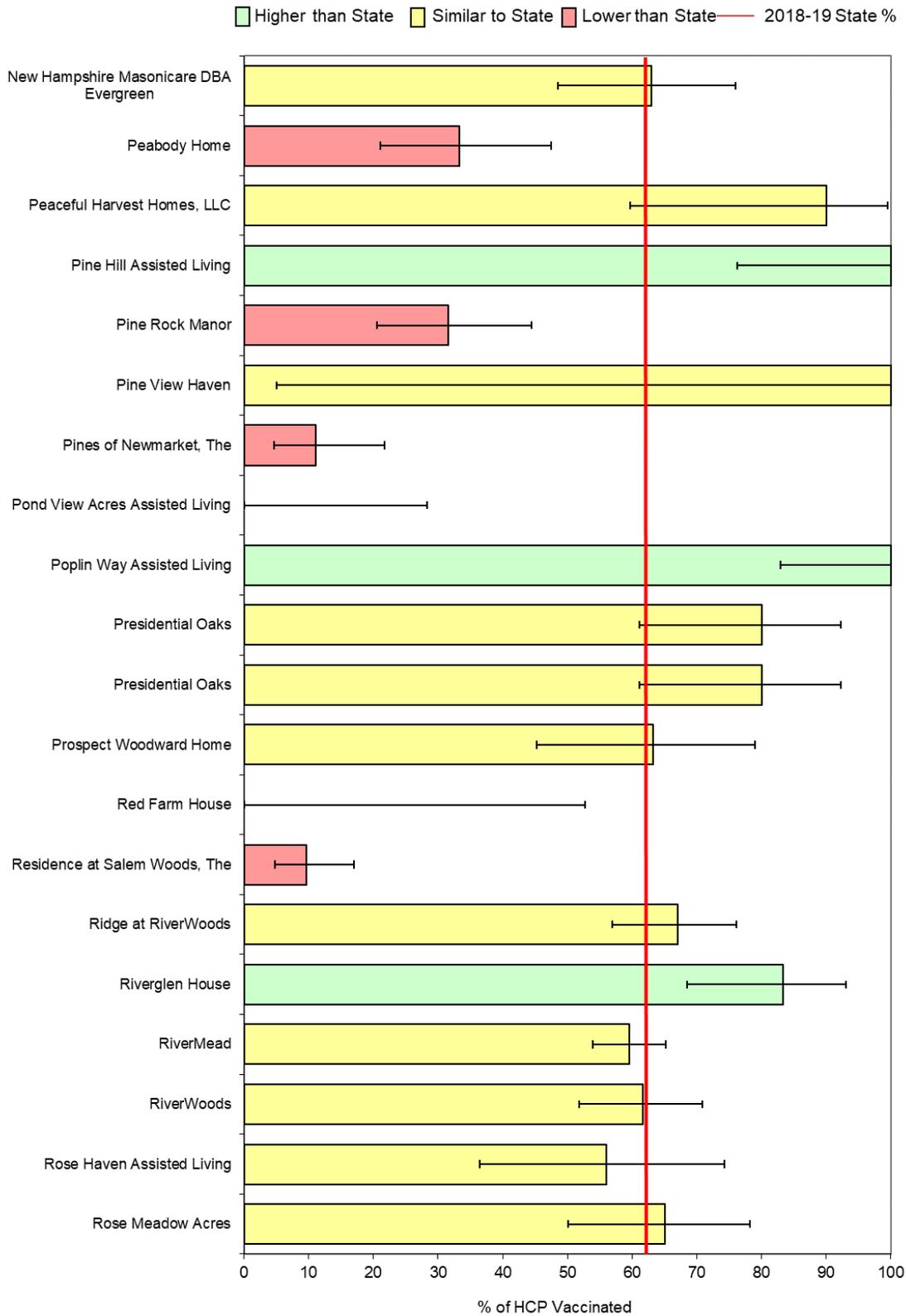


Figure 2. Continued, Influenza vaccination percentages for ALF HCP by ALF, 2018-19 influenza season (October 1, 2018—March 31, 2019)

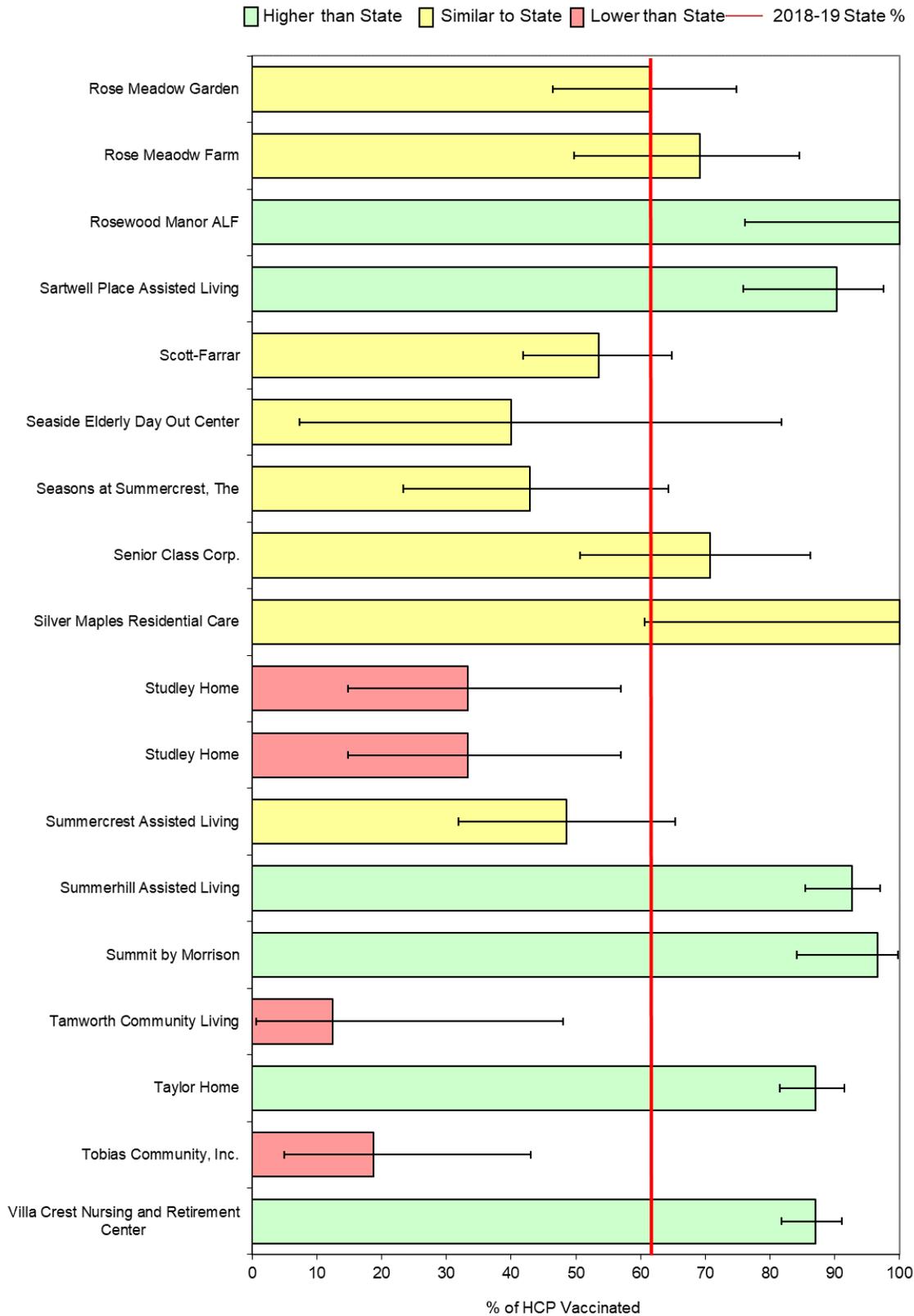
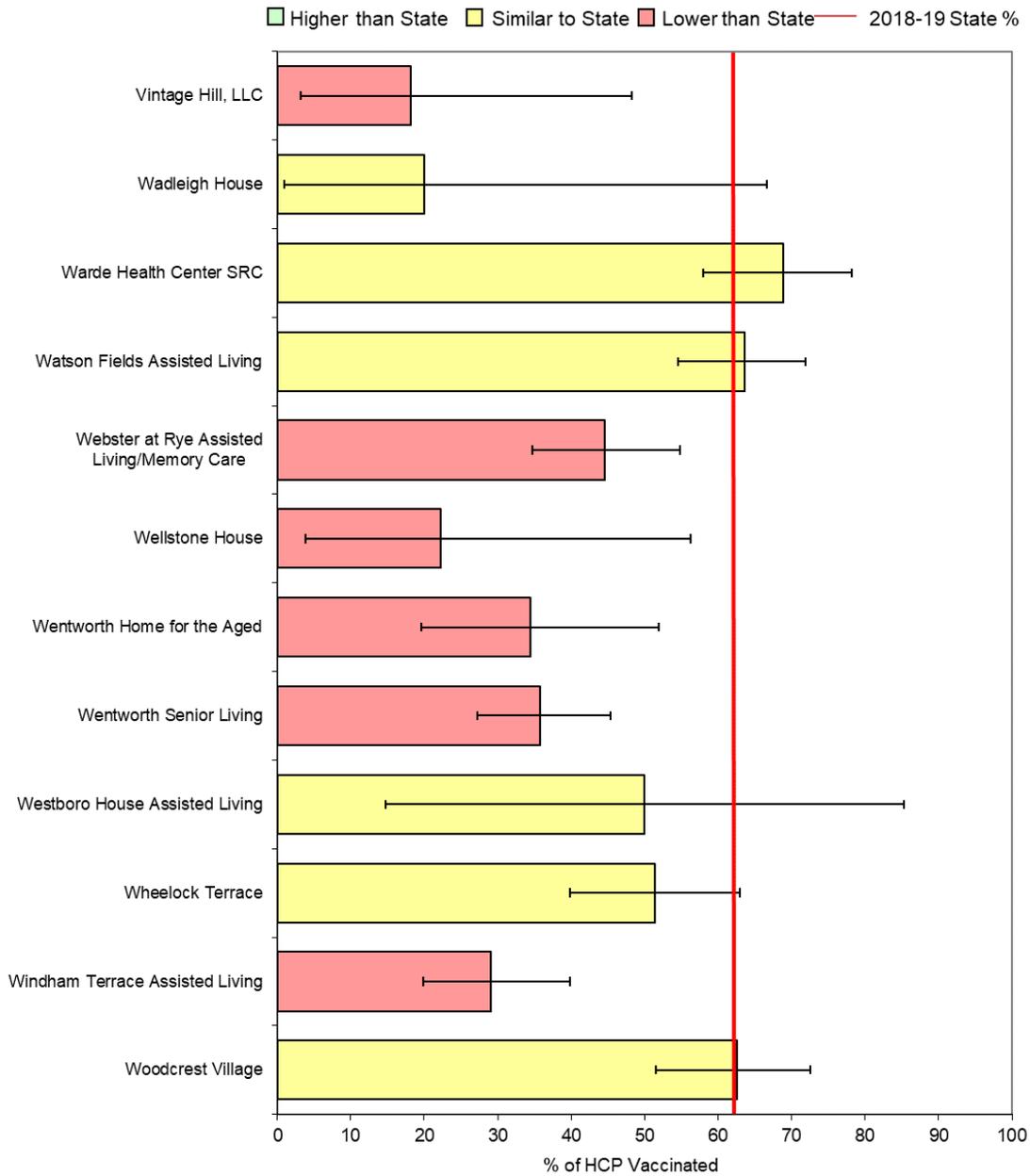


Figure 2. Continued, Influenza vaccination percentages for ALF HCP by ALF, 2018-19 influenza season (October 1, 2018—March 31, 2019)



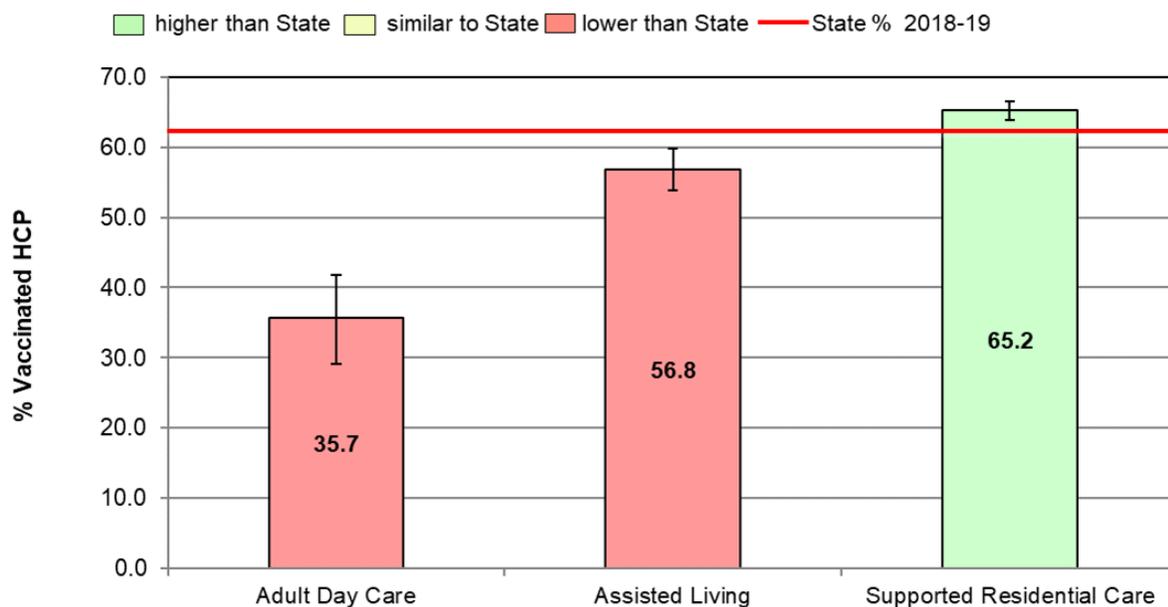
Influenza Vaccination Percentages: Comparison to 2017-18 Data

The statewide ALF HCP influenza vaccination percentage increased significantly between the 2017-18 influenza season (58.2%) and 2018-19 (60.7%). Analysis of the data shows that 7 ALF increased HCP influenza vaccination in 2018-19 compared to 2017-18, 95 ALF had similar vaccination percentages, and 15 ALF decreased influenza vaccination percentage. Forty-nine facilities could not be compared with the prior season because either their license expired, lapsed and was reinstated, or were newly licensed and did not have any data in the previous season.

Influenza Vaccination Percentages: Comparison of Assisted Living Facility Types

In New Hampshire, 18 adult day care, 58 assisted living, and 93 supported residential care facilities were licensed for at least part of the 2018-19 influenza season. Figure 3 below shows that HCP influenza vaccination coverage in adult day care facilities was significantly lower (35.7%) than the state percentage of these facility types, coverage in assisted living facilities was significantly lower (56.8%) than the state percentage, and coverage in supported residential care facilities was significantly higher (65.2%) to the state percentage. In addition, there were significant differences between each facility type; adult day care coverage was significantly lower than both assisted living and supported residential care coverage. This demonstrates that, although these three facility types are pooled in these analyses, there may be significant differences between the three facility types and they may need to be analyzed separately in future reports.

Figure 3. Influenza vaccination percentage comparison by facility type, 2018-19 influenza season



Mandatory Influenza Vaccination Policies for Healthcare Personnel

During the 2018-19 influenza season, 40 (23.7%) of 169 ALF had a known HCP vaccination policy in place (Table 2). Nineteen (11.2%) did not have one in place but were considering one, 77 (45.6%) did not have one in place and were not considering one, and 33 (19.5%) did not complete the survey to indicate whether they have a policy or not. Among the 40 ALF with a policy, 26 (65%) allowed for medical, religious, and personal/philosophical exemptions, four (10%) allowed for only medical and religious exemptions, three (7.5%) allowed for medical, religious, personal/philosophical and other exemptions, three (7.5%) allowed for only medical exemptions, one (2.5%) allowed for personal/philosophical only, and one (2.5%) allowed for other reasons besides medical, religious, and personal/philosophical exemptions. Thirty-three (82.5%) ALF required unvaccinated HCP with an

approved exemption to wear a mask, twenty-three (57.5%) ALF required those HCP to receive verbal or written education, and two (5%) had other unspecified requirements. Nine (22.5%) ALF stated that unvaccinated HCP without an accepted exemption would be subject to progressive discipline as a consequence. Twenty-nine (72.5%) ALF required unvaccinated non-exempt HCP to wear a mask, 22 (55%) ALF required verbal or written education, and one (2.5%) ALF had other unspecified consequences. Figure 4 shows that ALF with vaccination policies had significantly higher percentages of influenza vaccination as a whole (85.2%) than ALF without policies (49.5%).

Figure 4. Influenza vaccination percentages for ALF with and without vaccination policies, 2018-19 influenza season

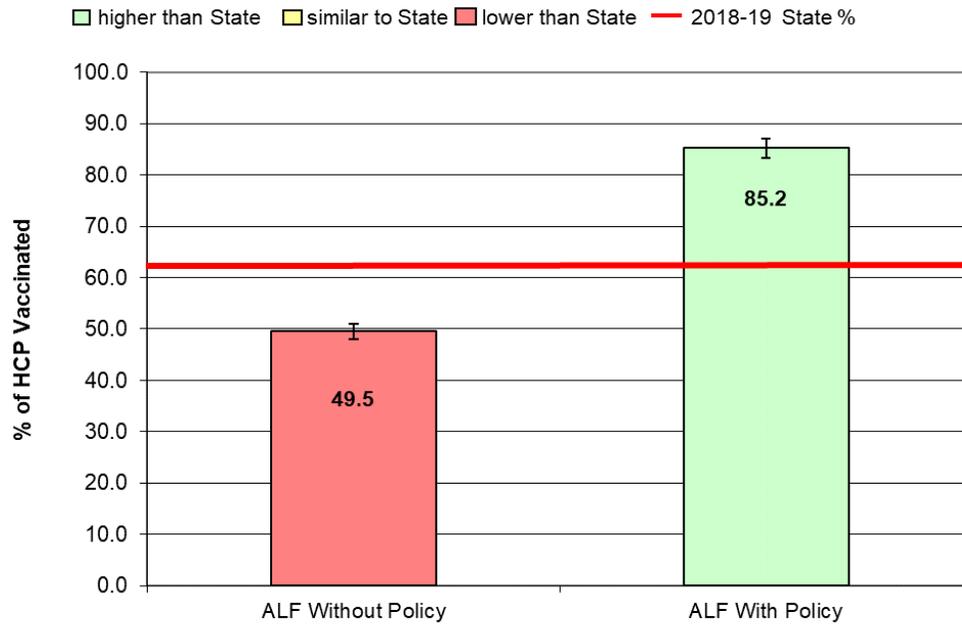


Table 2. Influenza vaccination policies and consequences for HCP by ALF, 2018-19 influenza season

ALF	Exemptions Allowed in Policy*	Requirements for Unvaccinated HCP with Accepted Exemption	Consequences for Unvaccinated HCP without Accepted Exemption
Applegate Gardens Residential Care	Medical	Wear a mask, Receive verbal and/or written education	Wear a mask, Progressive discipline, potentially including termination
Assisted Living At Sugar Hill	Medical, Religious, Personal/philosophical	Other	Wear a mask
Bentley Commons At Keene	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Brookdale Spruce Wood	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Carpenter Home (The)	Medical, Religious	Wear a mask, Receive verbal and/or written education	Wear a mask, Receive verbal and/or written education
Carriage Hill Assisted Living	Medical, Religious, Personal/philosophical, Other	Wear a mask, Receive verbal and/or written education	Wear a mask, Receive verbal and/or written education
Clipper Harbor Alf	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Courville At Manchester (The)	Personal/philosophical	Wear a mask, Receive verbal and/or written education	Wear a mask, Receive verbal and/or written education
Four Winds Community	Medical, Religious, Personal/philosophical	Receive verbal and/or written education	Receive verbal and/or written education
Granite Ledges of Concord	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Greystone Farm	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Harvest Hill	Medical, Religious, Personal/philosophical	Wear a mask	Progressive discipline, potentially including termination
Havenwood	Medical, Religious, Personal/philosophical	Wear a mask, Receive verbal and/or written education	Wear a mask, Receive verbal and/or written education
Huggins Hospital ADP	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask, Receive verbal and/or written education
Inn At Golden View (The)	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask, Receive verbal and/or written education

Table 2. Continued, Influenza vaccination policies and consequences for HCP by ALF, 2018-19 influenza season

ALF	Exemptions Allowed in Policy*	Requirements for Unvaccinated HCP with Accepted Exemption	Consequences for Unvaccinated HCP without Accepted Exemption
Kendal At Hanover	Medical, Religious, Personal/philosophical, Other	Wear a mask	Wear a mask
Langdon Place Of Dover	Medical, Religious, Personal/philosophical	Wear a mask, Receive verbal and/or written education	Wear a mask
Langdon Place Of Exeter	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Langdon Place Of Keene	Medical, Religious, Personal/philosophical	Wear a mask, Receive verbal and/or written education	Wear a mask
Langdon Place Of Nashua	Medical	Wear a mask, Receive verbal and/or written education	Wear a mask
Maintaining Independence Adult Day Services, Inc.	Medical, Religious	Wear a mask	Wear a mask
Mineral Springs, A Senior Living Community	Medical, Religious, Personal/philosophical, Other	Wear a mask	Wear a mask
NeuroRestorative North – Freedom House	Medical, Religious, Personal/Philisophical	Wear a mask, Receive verbal and/or written education	Wear a mask, Receive verbal and/or written education
Peaceful Harvest Home LLC	Medical, Religious	Wear a mask, Receive verbal and/or written education	Progressive discipline, potentially including termination
Poplin Way Assisted Living	Medical, Religious, Personal/philosophical	Wear a mask, Receive verbal and/or written education	None
Prospect Woodward Home	Medical, Religious, Personal/philosophical	Wear a mask if an outbreak	Wear a mask if an outbreak
Riverglen House	Medical, Religious, Personal/philosophical, Other	Wear a mask	Wear a mask
Rose Meadow Acres	Medical, Religious	Wear a mask, Receive verbal and/or written education	Wear a mask, Receive verbal and/or written education
Rose Meadow Farm	Medical, Religious, Personal/philosophical	Wear a mask, Receive verbal and/or written education	Wear a mask, Receive verbal and/or written education
Rose Meadow Garden	Medical, Religious	Wear a mask, Receive verbal and/or written education	Wear a mask, Progressive discipline, potentially including termination, Receive verbal and/or written education

Table 2. Continued, Influenza vaccination policies and consequences for HCP by ALF, 2018-19 influenza season

ALF	Exemptions Allowed in Policy*	Requirements for Unvaccinated HCP with Accepted Exemption	Consequences for Unvaccinated HCP without Accepted Exemption
Sartwell Assisted Living At The Morrison	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Senior Class Corp.	Medical, Religious, Personal/philosophical	Receive verbal and/or written education	Receive verbal and/or written education
Summerhill Assisted Living	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Summit by Morrison	Medical, Religious, Personal/philosophical	Wear a mask	Wear a mask
Tamworth Community Living	Personal/philosophical	Wear a mask, Receive verbal and/or written education	Receive verbal and/or written education
Taylor Home	Other	Wear a mask, Receive verbal and/or written education	Wear a mask, Receive verbal and/or written education
Villa Crest Nursing Home and Retirement Center	Medical, Religious, Personal/philosophical	Receive verbal and/or written education	Receive verbal and/or written education
Westboro House	Medical, Religious, Personal/philosophical, Other	Wear a mask, Receive verbal and/or written education	Wear a mask, Progressive discipline, potentially including termination, Receive verbal and/or written education

* Exemptions include Medical, Religious, Personal/philosophical, and Other.

Note: Table 2 only includes ALF with vaccination policies in place during the 2018-19 season.

IV. CONCLUSIONS

This fifth report of ALF HCP influenza vaccination data is an important part of continuing progress toward the goal of eliminating HAI, including healthcare-acquired influenza, in NH. This report provides influenza vaccination coverage data, which can be used by ALF in the State to identify areas for improvement as well as healthcare consumers to make informed healthcare decisions.

Key findings described in this report include the following:

- During the 2018-19 influenza season, there were 18 adult day care, 58 assisted living, and 93 supported residential care facilities, totaling 169 ALF. Vaccination percentages by ALF during the 2018-19 influenza season ranged from 0.0% to 100.0%. The overall State percentage was 60.7%, which represents a slight increase from the 2017-18 influenza season when the statewide ALF vaccination percentage was 58.2%.
- The State ALF vaccination percentages from the 2014-15 influenza season to the 2018-19 influenza season varied each year, ranging from 59.3% to 60.7%.
- HCP influenza vaccination coverage varied by ALF type. Influenza vaccination coverage at adult day cares was lowest (35.7%). Assisted living facilities (56.8%) had a significantly lower vaccination rate compared to the State percentage. Supported Residential Care facilities (65.2%) had a higher vaccination rate compared to the State percentage.
- Among the 136 ALF who reported influenza policy information, 40 (29.4%) ALF had influenza vaccination policies for HCP during the 2018-19 season. Overall, ALF with vaccination policies had a significantly higher vaccination percentage (85.2%) than ALF that did not (49.5%).

While this report only includes information on HCP influenza vaccination coverage in ALF, the information provided can be used as an important indicator of healthcare quality and infection prevention efforts in NH adult day care, supported residential care, and assisted living facilities.

Healthcare consumers can discuss the information provided in this report with their healthcare provider and should review Appendix 3 for information on what individual patients can do to prevent HAI, including healthcare-associated influenza.

APPENDIX 1: Technical Notes

1. Data in this report were extracted from an online survey on 5/30/18. Changes reported by ALF after this date are not reflected in this report.
2. All confidence intervals presented in this report are 95% confidence intervals. A confidence interval is a measure of certainty (usually with 95% confidence) of an estimate (such as a percentage). Because we can never obtain a facility's true "population" data (e.g., all patients for all time), we use statistical procedures to "estimate" various measurements using "sample" data. Since estimates have "variability" we use 95% confidence limits to describe the variability around the estimate. The confidence interval (CI) gives us the range within which the TRUE value will fall 95% of the time, assuming that the sample data are reflective of the true population. If the confidence intervals for the two percentages overlap, then it is reasonably possible that the REAL percentages are not different from one another.
3. Statistical significance is affected by sample size. If a value is almost or just barely significant, just a few additional observations can push significance one way or the other (i.e., not significant or significant).

Process Measure Percentages

1. Calculating an influenza vaccination percentage: Influenza vaccination percentages are presented as the number of persons vaccinated divided by the total number of persons expressed as a percent.

$$\text{Influenza Vaccination (\%)} = (\text{number of persons vaccinated} / \text{total number of persons}) \times 100$$

2. Calculating a corresponding confidence interval for an influenza vaccination percentage: Confidence intervals calculated for influenza vaccination data presented in this report are mid-p exact 95% confidence intervals, which were calculated using a statistical software program.
3. Interpreting a proportion confidence interval for vaccination data: A confidence interval is a measure of certainty (usually with 95% confidence) of an estimate (such as a percentage). Confidence intervals can be used to assess whether differences in the percentages observed for each group (for example, ALF vs. State) is statistically significant (or significantly different).
 - a. Confidence intervals that overlap the State confidence interval are considered "Similar" to the overall State percentage.
 - b. Confidence intervals that are lower than and do not overlap the State confidence interval are considered "Lower" than the overall State percentage.
 - c. Confidence intervals that are higher than and do not overlap the State confidence interval are considered "Higher" than the overall State percentage.

APPENDIX 2: Influenza Vaccination Survey Questions, 2017-2018 Season

1. Background information (facility and survey respondent)
2. How many patients were residents or attendees at your facility between October 1, 2017 and March 31, 2018?
3. How many of the residents/attendees at your facility between October 1, 2017 and March 31, 2018 received a seasonal influenza vaccination (at your facility or elsewhere) for the 2017/18 season?
 - 3a. Total number of residents/attendees immunized against influenza for the 2017/18 season:
 - 3b. Total number of residents/attendees not immunized against influenza for the 2017/18 season:
4. How many of the residents/attendees at your facility between October 1, 2017 and March 31, 2018 had ever received a pneumococcal disease vaccination (at your facility or elsewhere)?
5. How many HCP worked or volunteered in your facility for at least one working day between October 1, 2017 and March 31, 2018?
6. How many HCP received a seasonal influenza vaccination (at your facility or elsewhere) for the 2017/18 season? Influenza vaccine for a given influenza season may be available as early as July or August. Include all immunized HCP that received the 2017/18 vaccine product, even if administered prior to October 1, 2017.
 - 6a. Total number of HCP immunized against influenza for the 2017/18 season:
 - 6b. Total number of HCP not immunized against influenza for the 2017/18 season:
7. Of the HCP not immunized against influenza for the 2017/18 influenza season, how many HCP did not receive the seasonal influenza vaccine for each of the following reasons (medical contraindications, religious, other (e.g., personal/philosophical), unknown)?
8. Does your facility have a seasonal influenza vaccination policy? Such a policy means that the facility requires all or some portion of HCPs working at that facility to receive a seasonal influenza vaccine. If NO, skip to item 13.
 - 8a. Yes, there is a policy currently in place
 - 8b. No, but we are considering a policy
 - 8c. No, and we are not considering a policy
 - 8d. Other
9. If your facility has a seasonal influenza vaccination policy, what reasons for exemption are acceptable (medical, religious, personal/philosophical, other)? Check all that apply.
10. If your facility has a seasonal influenza vaccination policy, what do you require of unvaccinated HCP with an acceptable reason for exemption (wear a mask, receive verbal and/or written education, other)? Check all that apply.

11. If your facility has a seasonal influenza vaccination policy, what are the potential consequences for unvaccinated HCP without an acceptable reason for exemption (wear a mask, progressive discipline, potentially including termination, receive verbal and/or written education, other)? Check all that apply.
12. If your facility has a seasonal influenza vaccination policy, how many people were terminated, suspended, resigned, or dismissed as a result of noncompliance with the policy during the 2017/18 influenza season?
13. Does your facility offer the high-dose influenza vaccine?
14. Please enter any comments you would like to share.

APPENDIX 3: Preventing Healthcare-Associated Infections

What You Can Do to Prevent Healthcare-Associated Infections

There are several prevention tips you can follow all the time to reduce your chance of getting an infection or spreading your infection to others.

1. Clean your hands.

- Use soap and warm water. Rub your hands really well for at least 20 seconds. Rub your palms, fingernails, in between your fingers, and the backs of your hands.
- If your hands do not look dirty, you can clean them with alcohol-based hand rub. Rub the sanitizer all over your hands, especially under your nails and between your fingers, until your hands are dry.
- Clean your hands before touching or eating food. Clean them after you use the bathroom, take out the trash, change a diaper, visit someone who is ill, or play with a pet.

2. Make sure healthcare providers clean their hands first, even if they wear gloves for a procedure.

- Doctors, nurses, dentists, and other healthcare providers come into contact with many bacteria and viruses. So if you do not see your healthcare provider wash their hands or use an alcohol-based hand rub before they treat you, ask them if they have cleaned their hands.
- Healthcare providers should wear clean gloves when they perform tasks such as taking throat cultures, pulling teeth, taking blood, touching wounds or body fluids, while suctioning tubes, and examining your mouth or genitalia. Don't be afraid to ask if they should wear gloves.

3. Cover your mouth and nose.

- Many diseases are spread through sneezes and coughs. When you sneeze or cough, the germs can travel 3 feet or more. Cover your mouth and nose to prevent the spread of infection to others.
- Use a tissue. Keep tissues handy at home, at work, and in your pocket. Be sure to throw away used tissues and clean your hands after coughing or sneezing.
- If you don't have a tissue, cover your mouth and nose with the bend of your elbow or hands. If you use your hands, clean them right away.

4. If you are sick, avoid close contact with others.

- If you are sick, stay away from other people or stay home. Don't shake hands or touch others.
- When you go for medical treatment, call ahead and ask if there is anything you can do to avoid infecting people in the waiting room.

5. Get vaccinations to avoid disease and fight the spread of infection.

- Make sure that your vaccinations are current—even for adults. Check with your doctor about shots you may need, including the seasonal influenza vaccination.

6. If you are prescribed an antibiotic for an illness, take them exactly as directed by your doctor.

- Don't take half-doses or stop before you complete your prescribed course even if you feel better. Not taking them as directed can lead to infections that become resistant to antibiotics, making them more difficult to treat.

This information was adapted from materials developed by the Centers for Disease Control and Prevention (CDC), the Association for Professionals in Infection Control and Epidemiology (APIC), the Joint Commission, and Society of Healthcare Epidemiology of America (SHEA).

Other useful resources

Access the New Hampshire Healthcare-Associated Infections (HAI) Program website for public reports, guidelines, and other materials at: <http://www.dhhs.nh.gov/dphs/cdcs/hai/index.htm>.

Learn more about vaccination at the New Hampshire Immunization Program website, specifically:

Adult vaccination campaign at: <http://www.dhhs.nh.gov/dphs/immunization/campaign.htm>
and Seasonal influenza at: <http://www.dhhs.nh.gov/dphs/cdcs/influenza/index.htm>.

For more information about HAI nationally and patient safety, visit the Centers for Disease Control and Prevention (CDC) website at: <http://www.cdc.gov/HAI/> and <http://www.cdc.gov/HAI/patientSafety/patient-safety.html>.

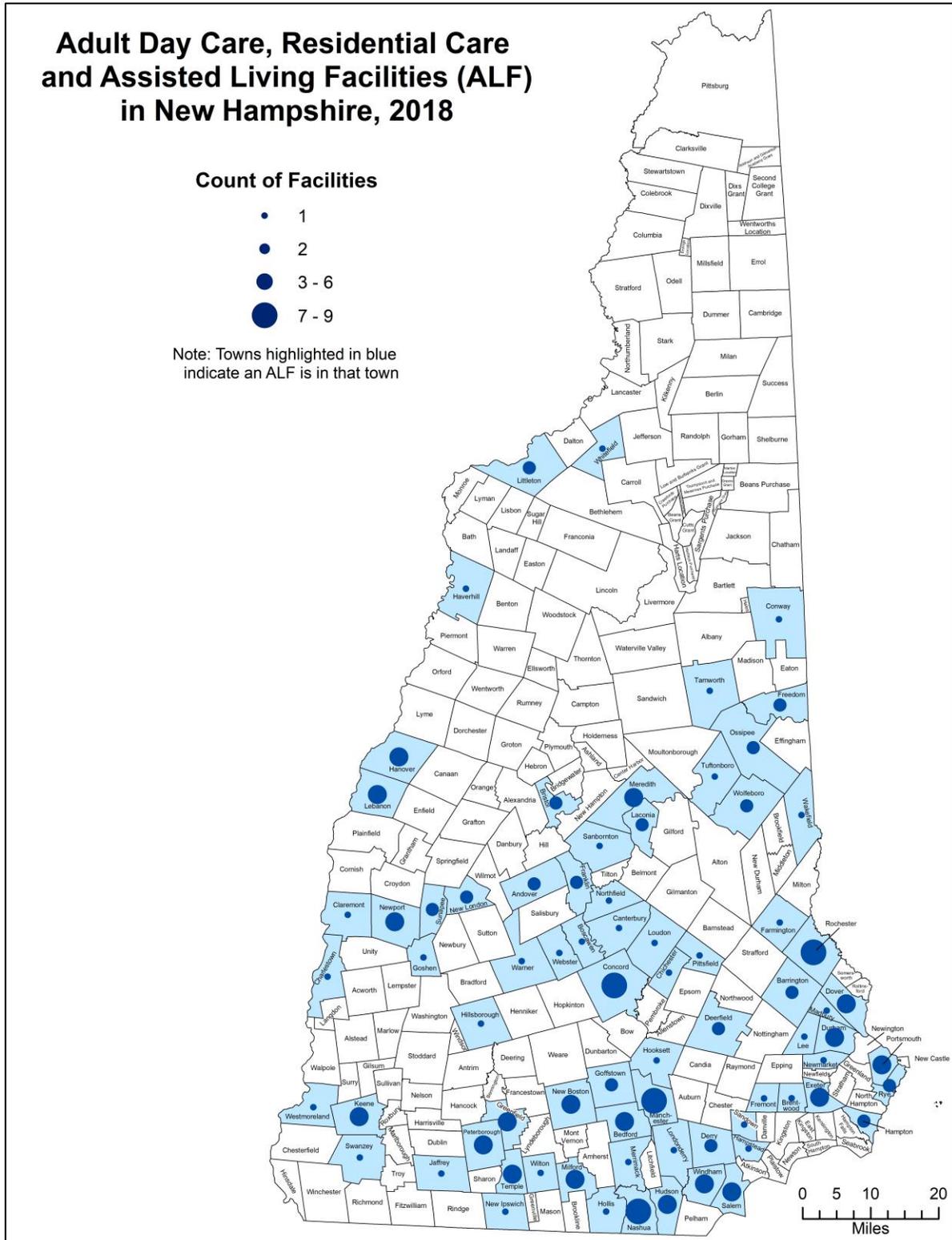
The Agency for Healthcare Quality and Research (AHRQ) has information for patients including care planning, diagnosis and treatment, and patient engagement. Visit their website at: <http://www.ahrq.gov/patients-consumers/index.html>.

The Society for Healthcare Epidemiology of America (SHEA) has several patient resources and guides. Visit their website at: <https://www.shea-online.org/index.php/practice-resources/patients>.

The Association of Professionals in Infection Control and Epidemiology (APIC) have infographics, eCards, and a quiz about HAI. Visit their website to learn more: <https://apic.org/For-Consumers/Patient-safety-resources>

To learn more about accreditation, certification and standards, visit the Joint Commission Website at: <http://www.jointcommission.org/>.

APPENDIX 3: Map of NH Adult Day Care, Supported Residential Care, and Assisted Living Facilities (ALF)



REFERENCES

- ⁱ CDC. Influenza Vaccination Coverage Among Health-Care Personnel – United States, 2017-18 Influenza Season. MMWR September 2018; 67(38);1050-1054. Accessed online from: <https://www.cdc.gov/nhsn/pdfs/datastat/hcp-flu-vax-data-tables-hospitals-2018-508.pdf>
- ⁱⁱ CDC and Healthcare Infection Control Practices Advisory Committee (HICPAC). Guidelines for Preventing Healthcare-Associated Pneumonia 2003. MMWR, March 26, 2004; 53(RR03); 1-36. Accessed online from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5303a1.htm>
- ⁱⁱⁱ New Hampshire Division of Public Health Services. Healthcare Personnel Influenza Vaccination in New Hampshire During the 2013-14 Influenza Season. December 2014. Accessed online from: <http://www.dhhs.nh.gov/dphs/cdcs/hai/documents/influenza-vaccination-2013-14.pdf>
- ^{iv} Hayward, A., Harling, R., Wetten, S., Johnson, A., Munro, S., Smedley, J., Murad, S. & Watson, J. Effectiveness of an influenza vaccine programme for care home staff to prevent death, morbidity, and health service use among residents: cluster randomized controlled trial. BMJ. 2006; doi:10.1136/bmj.39010.581354.55.
- ^v Wendelboe, A., Avery, C., Andrade, B., Baumbach, J. & Landen, M. Importance of employee vaccination against influenza in preventing cases in long-term care facilities. Infection Control and Hospital Epidemiology. 2011; 32(10), 990-997.
- ^{vi} Linda McKibben, MD,^a Teresa Horan, MPH,^b Jerome I. Tokars. Guidance on Public Reporting of Healthcare-Associated Infections: Recommendations of the Healthcare Infection Control Practices Advisory Committee. American Journal of Infection Control. 2005;33:217-26. Accessed online from: <http://www.cdc.gov/ncidod/dhqp/pdf/hicpac/PublicReportingGuide.pdf>
- ^{vii} The Healthcare-Associated Infection Working Group of the Joint Public Policy Committee. Essentials of Public Reporting of Healthcare-Associated Infections: A Tool Kit. Accessed online from: <http://www.cste2.org/webpdfs/06107498EssentialsToolKit.pdf>